REMARKS

A total of 28 claims remain in the present application.

Referring now to the text of the Office Action:

a) claims 1-4 stand rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.);

b) claims 5,21-24,26, 27 and 28 stand rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.) in view of United States Patent No. 5,263,056 (Urbansky);

c) claims 6-10 stand rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.) in view of United States Patent No. 5,263,056 (Urbansky), and further in view of United States Patent No. 4,998,242 (Upp);

d) claim 12 stand rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.) in view of United States Patent No. 6,240,087 (Cummings et al.);

e) claims 13, 16, 17, 19 and 20 stand rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.) in view of United States Patent No. 4,998,242 (Upp);

f) claims 14 and 15 stand rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.) in view of United

States Patent No. 4,998,242 (Upp), and further in view of United States Patent No. 5,131,013 (Choi);

g) claim 18 stands rejected under 35 USC § 103(a) as being unpatentable over United States Patent No. 6,047,005 (Sherman et al.) in view of United States Patent No. 4,998,242 (Upp), and further in view of United States Patent No. 5,663,820 (Shiragaki); and

h) claims 11 and 25 are objected to as being dependent on a rejected base claim.

As an initial matter, applicant appreciated the Examiner's indication of patentable subject matter in claims 11 and 25. The Examiner's rejections of the remaining claims is believe to be traversed by the above-noted amendments in the claims, and further in view of the following comments.

Rejections under 35 USC § 103(a)

At paragraph 10 of the Examiner's Detailed Action, the Examiner states that "the term 'adaptively' merely means to suitably perform some function". This is incorrect. It appears that the Examiner has confused the word "adaptively" in the claims, with the *pantentese* term 'adapted', which does have the meaning identified by the Examiner. In fact, the term "adaptively" as used in the present specification, and the amended claims, is a common term of art which means that the function is performed in such a way that it dynamically adjusts to changes in one or more parameters. In the present case, the step of inserting bits of the contiguous signal into the synchronous container is performed "adaptively". This does not mean that it is performed in some suitable manner, as suggested by the Examiner. Rather, it means that it is performed in a manner that dynamically adjusts for changes in the format and/or data rate of the contiguous signal, without requiring intervention by the network service provider.

While the desirability of such a function may be well known, prior to the present invention, methods and systems capable of performing this operation were neither known nor suggested. Certainly, Sherman et al cannot accommodate changes in the input signal without outside intervention, and thus do not present an adaptive solution.

As argued in Applicant's response filed November 3, 2003, Sherman et al is directed toward solving the problem of wasted bandwidth due to under utilization of outbound T1 circuits of a voice response unit (see columns 1 and 2) and is not directed toward solving the problems of the present invention, namely mapping of an arbitrary rate signal. Transport of T1 signalling over VT1.5 over OC-3, is presented by Sherman et al as a well known signal mapping that permits transport of lower rate signalling over a synchronous network. Many such mappings are well known, and predate the Sherman et al reference. Typically, these mappings involve the insertion of stuff bits (or words) to compensate differences between the data rates of the customer's data signal and the synchronous transport signal. As is well known in the art, stuff bits (or words) are preferably evenly distributed within the transport frame, so as to minimize the effects of jitter.

As is also well known in the art, and described in the present application, such prior art mappings must be provisioned by the Network service provider as part of provisioning a connection. This necessarily takes into account detailed information concerning the traffic to be conveyed through the synchronous network, and once established, the connection (and any of its respective mappings) remain "nailed up" for the duration of the connection. Frequently, separate hardware will be provided for any particular mapping. Thus, for example, the T1 over VT1.5 over OC-3 mapping used by Sherman et al would be implemented using a specially designed application-specific integrated circuit (ASIC). A difference mapping (e.g. T1 over VT2 over OC-4) would require an entirely different ASIC.

However, as pointed out in the present application, advanced knowledge of a customer's signal format and/or bit-rate may not be available at the time that a connection is provisioned. The prior art system of Sherman et al. cannot accommodate this scenario, because the input data signal must be known in order for the appropriate mappings to be provisioned, which is essential to completion of the connection. In other situations, the customer may utilise a connection for a period of time using the provisioned data signal format and bit rate, and subsequently wish to change their signal format (and/or bit rate). In the prior art system of Sherman et al., such a change would require the network service provider to "tear down" the old connection, and provision a new connection with mappings appropriate for the new signal format.

The present invention overcomes these limitations by providing an "adaptive mapping algorithm", which enables the mapping function to be rapidly provisioned "on the fly" (see page 6 line 5). This is accomplished by adaptively mapping the data to the frame, using both fixed stuffs and adaptive stuff bits. The number and location of the adaptive stuff bits are dynamically computed based on the (possibly changing) relationship between the customer's continuous format signal and the fixed length container used for transport across the synchronous network. With this arrangement, changes in the customer's signal format can be accommodated automatically, without intervention by the network service provider to re-provision or alter the connection in any way. Sherman et al do not even remotely contemplate such a system. Nor, for that matter, do they have any reason to, because Sherman et al are directed to solving a completely different problem. The other known prior art does not provide the missing teaching.

None of the cited references, taken alone or in combination, teach or suggest adaptively mapping arbitrary rate signals onto a synchronous signal. Accordingly, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the

teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,
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